

FABRICATION OF AN ARTICLE HAVING A THERMAL
BARRIER COATING SYSTEM, AND THE ARTICLE

ABSTRACT OF THE DISCLOSURE

An article protected by a thermal barrier coating system is fabricated by providing an article substrate having a substrate surface; and thereafter producing a pre-oxidized bond coat on the substrate surface by depositing a bond coat on the substrate surface, the bond coat having a bond coat surface, and controllably oxidizing the bond coat surface to form a pre-oxidized bond coat surface. A thermal barrier coating is thereafter deposited overlying the pre-oxidized bond coat surface. The thermal barrier coating is yttria-stabilized zirconia having a yttria content of from about 3 percent by weight to about 5 percent by weight of the yttria-stabilized zirconia.